Contents of Volume LX

Number 1, January, 2001

Inclusion-Body Myositis: Newest Concepts of Pathogenesis and Relation to Aging and Alzheimer Disease. Valerie Askanas, MD, PhD and W. King Engel, MD. *Los Angeles, California* 1

High Frequency Stimulation of the Subthalamic Nucleus Increases the Extracellular Contents of Striatal Dopamine in Normal and Partially Dopaminergic Denervated Rats. Nicolas Bruet, MSc, François Windels, MSc, Anne Bertrand, BSc, Claude Feuerstein, MD, Annie Poupard, MSc, and Marc Savasta, PhD. *Grenoble, France* 15

Expression Pattern of CXCR3, CXCR4, and CCR3 Chemokine Receptors in the Developing Human Brain. Peter van der Meer, Steven H. Goldberg, MD, Kar Ming Fung, MD, PhD, Leroy R. Sharer, MD, Francisco González-Scarano, MD, and Ehud Lavi, MD. *Philadelphia, Pennsylvania and Newark, New Jersey* 25

Effects of Sodium and Chloride on Neuronal Survival After Neurite Transection. Lisa J. Rosenberg, PhD, Dennis G. Emery, PhD, and Jen Hill Lucas, PhD. *Washington, DC, Ames, Iowa, and Columbus, Ohio* 33

Neurons in Niemann-Pick Disease Type C Accumulate Gangliosides as Well as Unesterified Cholesterol and Undergo Dendritic and Axonal Alterations. Mark Zervas, MS, Kostantin Dobrenis, PhD, and Steven U. Walkley, DVM, PhD. *Bronx, New York* 49

Schwann Cell Dependence of Regenerating Rat Sensory Neurons Is Inversely Related to the Quality of Axon Growth Substratum. Fajko Bajrović, MD, PhD, Matevz Srpčić, BSc, and Janez Sketelj, MD, PhD. *Ljubljana, Slovenia* 65

Distinct Differences in Binding Capacity to Saccharide Epitopes in Supratentorial Pilocytic Astrocytomas, Astrocytomas, Anaplastic Astrocytomas, and Glioblastomas. Isabelle Camby, PhD, Christine Decaestecker, PhD, Laurence Gordower, MD, Robert DeDecker, Yasmine Kacem, Arnaud Lemmers, Hans-Christian Siebert, PhD, Nicolai V. Bovin, PhD, Pieter Wesseling, MD, André Danguy, PhD, Isabelle Salmon, MD, Hans-Joachim Gabius, PhD, and Robert Kiss, PhD. *Brussels, Belgium, Munich, Germany, Moscow, Russia and Nijmegen, The Netherlands* 75

Matrix Metalloproteinase Expression and Inhibition After Sciatic Nerve Axotomy. Heike Siebert, PhD, Nina Dippel, MD, Michael Mäder, PhD, Frank Weber, MD, and Wolfgang Brück, MD. *Berlin and Göttingen, Germany* 85

Codeposition of Cystatin C with Amyloid-ß Protein in the Brain of Alzheimer Disease Patients. Efrat Levy, PhD, Magdalena Sastre, PhD, Asok Kumar, PhD, Gloria Gallo, MD, Pedro Piccardo, MD, Bernardino Ghetti, MD, and Fabrizio Tagliavini, MD. *New York, New York, Indianapolis, Indiana and Milano, Italy* 94

Letters to the Editor

Amyloid Deposition in Diffuse Plaques May Or May Not Start at the Neuronal Cell Surface Membrane (2000;59:723–32). M. A. Pappolla, MD 105

Response to M. A. Pappolla. H. Yamaguchi, MD, PhD 105

Number 2, February, 2001

Subacute Combined Degeneration One Century Later. The Neurotrophic Action of Cobalamin (Vitamin B_{12}) Revisited. G. Scalabrino, MD. *Milan, Italy* 109

Alzheimer-Type I Astrogliopathy (AIA) and Its Implications for Dynamic Plasticity of Astroglia: A Historical Review of the Significance of AIA. Kuo Chun Ma, MD. *Shanghai, People's Republic of China* 121

The Modulations of NCAM Polysialylation State that Follow Transient Global Ischemia Are Brief on Neurons But Enduring on Glia. Gerard B. Fox, PhD, Connie Kjøller, BSc, Keith J. Murphy, PhD, and Ciaran M. Regan, PhD, DSc. *Dublin, Ireland* 132

Alpha$_2$ Receptor Binding in the Medulla Oblongata in the Sudden Infant Death Syndrome. Jaleh Mansouri, MD, Ashok Panigrahy, MD, James J. Filiano, MD, Lynn A. Sleeper, ScD, Walter M. St. John, PhD, and Hannah C. Kinney, MD. *Boston and Watertown, Massachusetts and Lebanon, New Hampshire* 141

Insulin-Like Growth Factor-I and Over-Expression of Bcl-xL Prevent Glucose-Mediated Apoptosis in Schwann Cells. Catherine L. Delaney, PhD, James W. Russell, MD, Hsin-Lin Cheng, MD, PhD, and Eva L. Feldman, MD, PhD. *Ann Arbor, Michigan* 147

Early and Progressive Accumulation of Reactive Microglia in the Huntington Disease Brain. E. Sapp, BA, K. B. Kegel, PhD, N. Aronin, MD, T. Hashikawa, PhD, DVM, Y. Uchiyama, MD, K. Tohyama, PhD, DVM, P. G. Bhide, PhD, J. P. Vonsattel, MD, and M. DiFiglia, PhD. *Boston and Worcester, Massachusetts and Riken, Iwate, and Osaka, Japan* 161

Absence of Detectable IL-1β Production in Murine Prion Disease: A Model of Chronic Neurodegeneration. Desmond T. Walsh, PhD, Samar Betmouni, DPhil, and V. Hugh Perry, DPhil. *Oxford, United Kingdom* 173

Acute Cytoskeletal Alterations and Cell Death Induced by Experimental Brain Injury Are Attenuated by Magnesium Treatment and Exacerbated by Magnesium Deficiency. KATHRYN E. SAATMAN, PHD, FLORENCE M. BAREYRE, MS, M. SEAN GRADY, MD, AND TRACY K. MCINTOSH, PHD. *Philadelphia, Pennsylvania* 183

Alzheimer-Associated Neuronal Thread Protein-Induced Apoptosis and Impaired Mitochondrial Function in Human Central Nervous System-Derived Neuronal Cells. SUZANNE M. DE LA MONTE, MD, MPH AND JACK R. WANDS, MD. *Providence, Rhode Island* 195

Second Primary Glioblastoma. RUI M. REIS, BSC, RIITTA HERVA, MD, SEBASTIAN BRANDNER, MD, JOHN KOIVUKANGAS, MD, NIKOLAI MIRONOV, PHD, WALTER BÄR, MD, PAUL KLEIHUES, MD, AND HIROKO OHGAKI, PHD. *Lyon, France, Oulu, Finland and Zürich, Switzerland* 208

NUMBER 3, MARCH, 2001

Mitochondrial Myopathies and the Role of the Pathologist in the Molecular Era. HANNES VOGEL, MD. *Houston, Texas* 217

Medullary Serotonergic Network Deficiency in the Sudden Infant Death Syndrome: Review of a 15-Year Study of a Single Dataset. HANNAH C. KINNEY, MD, JAMES J. FILIANO, MD, AND W. F. WHITE, PHD. *Boston, Massachusetts, Lebanon, New Hampshire, and Groton, Connecticut* 228

Oligodendrogliomas: Reproducibility and Prognostic Value of Histologic Diagnosis and Grading. C. GIANNINI, MD, PHD, B. W. SCHEITHAUER, MD, A. L. WEAVER, MS, P. C. BURGER, MD, J. M. KROS, MD, PHD, S. MORK, MD, M. B. GRAEBER, MD, S. BAUSERMAN, MD, J. C. BUCKNER, MD, J. BURTON, R. RIEPE, MD, H. D. TAZELAAR, MD, A. G. NASCIMENTO, MD, T. CROTTY, MD, G. L. KEENEY, MD, P. PERNICONE, MD, AND H. ALTERMATT, MD. *Rochester, Minnesota, Baltimore, Maryland, Rotterdam, The Netherlands, Bergen, Norway, London, England, Austin, Texas, Marshfield, Wisconsin, Orlando, Florida, and Bern, Switzerland* 248

Effect of NGF and Neurotrophin-3 Treatment on Experimental Diabetic Autonomic Neuropathy. ROBERT E. SCHMIDT, MD, PHD, DENISE A. DORSEY, AB, LUCIE N. BEAUDET, CURTIS A. PARVIN, PHD, AND ENRIQUE ESCANDON, PHD. *St. Louis, Missouri and South San Francisco, California* 263

Analysis of Cerebral Amyloid Angiopathy in a Transgenic Mouse Model of Alzheimer Disease Using In Vivo Multiphoton Microscopy. E. Y. KIMCHI, BA, S. KAJDASZ, BA, B. J. BACSKAI, PHD, AND B. T. HYMAN, MD, PHD. *Charlestown, Massachusetts* 274

Distribution of Tripeptidyl Peptidase I in Human Tissues Under Normal and Pathological Conditions. ELIZABETH KIDA, MD, PHD, ADAM A. GOLABEK, PHD, MARIUSZ WALUS, MSC, PETER WUJEK, MSC, WOJCIECH KACZMARSKI, PHD, AND KRYSTYNA E. WISNIEWSKI, MD, PHD. *Staten Island, New York and Warsaw, Poland* 280

Amelioration of Neurotoxic Effects of HIV Envelope Protein gp120 by Fibroblast Growth Factor: A Strategy for Neuroprotection. IAN P. EVERALL, MD, GUSTA TRILLO-PAZOS, PHD, CHRISTOPHER BELL, MS, MARGARET MALLORY, BS, VIRGINIA SANDERS, PHD, AND ELIEZER MASLIAH, MD. *London, England and La Jolla, California* 293

Caspase 3 Expression Correlates With Skeletal Muscle Apoptosis in Duchenne and Facioscapulo Human Muscular Dystrophy. A Potential Target for Pharmacological Treatment? M. SANDRI, MD, A. H. EL MESLEMANI, DBIOL, C. SANDRI, DBIOL, P. SCHJERLING, PHD, K. VISSING, BS, J. L. ANDERSEN, PHD, K. ROSSINI, DBIOL, U. CARRARO, MD, AND C. ANGELINI, MD. *Padua, Italy and Copenhagen, Denmark* 302

Books Received

Pathology of Tumors of the Central Nervous System. A Guide to Histologic Diagnosis. *Roger E. McClendon, Darrel D. Bigner, Sandra H. Bigner, and James M. Provenzale.* (MNH) 313

In Memoriam

Jean Lapresle, MD (SERGE DUCKETT AND ROBERT TERRY) 314

NUMBER 4, APRIL, 2001

The Worster-Drought Syndrome and Other Syndromes of Dementia With Spastic Paraparesis: The Paradox of Molecular Pathology. COLIN L. MASTERS, MD AND KONRAD BEYREUTHER, MD. *Parkville, Victoria, Australia and Heidelberg, Federal Republic of Germany* 317

Production of MMPs in Human Cerebral Endothelial Cells and Their Role in Shedding Adhesion Molecules. V. HUMMEL, MSC, B. A. KALLMANN, MD, S. WAGNER, PHD, T. FÜLLER, MSC, A. BAYAS, MD, J. C. TONN, MD, E. N. BENVENISTE, MD, K. V. TOYKA, MD, AND P. RIECKMANN, MD. *Würzburg, Germany and Birmingham, Alabama* 320

Frontal Lobe Dementia With Novel Tauopathy: Sporadic Multiple System Tauopathy With Dementia. EILEEN H. BIGIO, MD, ANNE M. LIPTON, MD, PHD, SHU-HUI YEN, PHD, MIKE L. HUTTON, PHD, MATT BAKER, BSC, PARIMALA NACHARAJU, PHD, CHARLES L. WHITE III, MD, PETER DAVIES, PHD, WENLANG LIN, PHD, AND DENNIS W. DICKSON, MD. *Dallas, Texas, Jacksonville, Florida and Bronx, New York* 328

Quantitation of apoE Domains in Alzheimer Disease Brain Suggests a Role for apoE in Aß Aggregation. HYUN SOON CHO, MS, BRADLEY T. HYMAN, MD, PHD, STEVEN M. GREENBERG, MD, PHD, AND G. WILLIAM REBECK, PHD. *Boston, Massachusetts* 342

Oxidative Stress and Disturbed Glutamate Transport in Hereditary Nucleotide Repair Disorders. MASAHARU HAYASHI, MD, MASAHIRO ITOH, MD, SATOSHI ARAKI, MD, SATOKO KUMADA, MD, KEI SHIODA, MD, KIMIKO TAMAGAWA, MD, TOSHIO MIZUTANI, MD, YOSHIO MORIMATSU, MD, MASAO MINAGAWA, MD, AND MASAYA ODA, MD. *Tokyo and Saitama, Japan* 350

Neurofibrillary Pathology in Transgenic Mice Overexpressing V717F β-Amyloid Precursor Protein. ELIEZER MASLIAH, MD, ABBYANN SISK, BS, MARGARET MALLORY, BS, AND DORA GAMES, PHD. *La Jolla and South San Francisco, California* 357

Recruitment of Nonexpanded Polyglutamine Proteins to Intranuclear Aggregates in Neuronal Intranuclear Hyaline Inclusion Disease. JUNKO TAKAHASHI, MD, JUNICHI TANAKA, MD, PHD, KIMIHITO ARAI, MD, PHD, NOBUAKI FUNATA, MD, PHD, TAKAMICHI HATTORI, MD, PHD, TAKAHIRO FUKUDA, MD, PHD, HIROTO FUJIGASAKI, MD, PHD, AND TOSHIKI UCHIHARA, MD, PHD. *Tokyo and Chiba, Japan* 369

Hippocampal Injury and Alterations in Neuronal Chemokine Co-Receptor Expression in Patients With AIDS. CAROL K. PETITO, MD, BRENDA ROBERTS, JOHN D. CANTANDO, ALEJANDRO RABINSTEIN, MD, AND ROBERT DUNCAN, PHD. *Miami, Florida* 377

Erythropoietin and Erythropoietin Receptors in Human CNS Neurons, Astrocytes, Microglia, and Oligodendrocytes Grown in Culture. ATSUSHI NAGAI, MD, PHD, EIJI NAKAGAWA, MD, PHD, HYUN B. CHOI, BSC, KOZO HATORI, MD, PHD, SHOTAI KOBAYASHI, MD, PHD, AND SEUNG U. KIM, MD, PHD. *Vancouver, Canada, Izumo, Japan and Suwon, Korea* 386

Substantia Nigra in Progressive Supranuclear Palsy, Corticobasal Degeneration, and Parkinsonism-Dementia Complex of Guam: Specific Pathological Features. KIYOMITSU OYANAGI, MD, PHD, KUNIAKI TSUCHIYA, MD, PHD, MINEO YAMAZAKI, MD, PHD, AND KENJI IKEDA, MD, PHD. *Tokyo, Japan* 393

NUMBER 5, MAY, 2001

Cortical Synapse Loss in Progressive Supranuclear Palsy. EILEEN H. BIGIO, MD, MARY BETH VONO, MD, SIVAPONG SATUMTIRA, BS, JENNIFER ADAMSON, BS, ESTELLE SONTAG, PHD, LINDA S. HYNAN, PHD, CHARLES L. WHITE III, MD, MATT BAKER, BSC, AND MIKE HUTTON, PHD. *Dallas, Texas and Jacksonville, Florida* 403

Delayed Peripheral Nerve Degeneration, Regeneration, and Pain in Mice Lacking Inducible Nitric Oxide Synthase. DAN LEVY, PHD, PAUL KUBES, PHD, AND DOUGLAS W. ZOCHODNE, MD, FRCPC. *Calgary, Alberta, Canada and Boston, Massachusetts* 411

Apoptotic and Anti-Apoptotic Mechanisms Following Spinal Cord Injury. ROBERT W. KEANE, PHD, SUSAN KRAYDIEH, BS, GEORGE LOTOCKI, BS, JOHN R. BETHEA, PHD, STANISLAW KRAJEWSKI, MD, PHD, JOHN C. REED, MD, PHD, AND W. DALTON DIETRICH, PHD. *Miami, Florida and La Jolla, California* 422

Elevation of LDL Receptor-Related Protein Levels via Ligand Interactions in Alzheimer Disease and In Vitro. ZHIHUA QIU, MD, DUDLEY K. STRICKLAND, PHD, BRADLEY T. HYMAN, MD, PHD, AND G. WILLIAM REBECK, PHD. *Boston, Massachusetts and Rockville, Maryland* 430

O-Glycosylation in Sprouting Neurons in Alzheimer Disease, Indicating Reactive Plasticity. BLANCA ESPINOSA, MS, ROBERTO ZENTENO, PHD, RAÚL MENA, MD, PHD, YVES ROBITAILLE, MD, EDGAR ZENTENO, MD, PHD, AND JORGE GUEVARA, PHD. *Mexico City, Mexico and Montreal, Canada* 441

Fibroblasts Can Express Glial Fibrillary Acidic Protein (GFAP) In Vivo. JOHANNES A. HAINFELLNER, MD, TILL VOIGTLÄNDER, MD, THOMAS STRÖBEL, PHD, PETER R. MAZAL, MD, ALESSIA S. MADDALENA, MD, ADRIANO AGUZZI, MD, AND HERBERT BUDKA, MD. *Vienna, Austria and Zurich, Switzerland* 449

Apoptosis, Neuronal Maturation, and Neurotrophin Expression Within Medulloblastoma Nodules. CHARLES G. EBERHART, MD, PHD, WALTER E. KAUFMAN, MD, TARIK TIHAN, MD, PHD, AND PETER C. BURGER, MD. *Baltimore, Maryland* 462

Acute Hypoxia-Induced Alterations of Calbindin-D_{28k} Immunoreactivity in Cerebellar Purkinje Cells of the Guinea Pig Fetus at Term. CHRISTOS D. KATSETOS, MD, MRCPATH, EVANGELIA SPANDOU, PHD, AGUSTIN LEGIDO, MD, PHD, MELISSA L. TAYLOR, MD, SANTINA A. ZANELLI, MD, JEAN-PIERRE DE CHADAREVIAN, MD, FRCP(C), SYLVIA CHRISTAKOS, PHD, OM PRAKASH MISHRA, PHD, AND MARIA DELIVORIA-PAPADOPOULOS, MD. *Philadelphia, Pennsylvania and Newark, New Jersey* 470

Variant Alzheimer Disease With Spastic Paraparesis: Neuropathological Phenotype. AULI VERKKONIEMI, MD, HANNU KALIMO, MD, PHD, ANDERS PAETAU, MD, PHD, MIRJA SOMER, MD, PHD, TAKESHI IWATSUBO, MD, JOHN HARDY, PHD, AND MATTI HALTIA, MD, PHD. *Helsinki and Turku, Finland, Tokyo, Japan, and Jacksonville, Florida* .. 483

The Dorsal Root Ganglia in Adrenomyeloneuropathy: Neuronal Atrophy and Abnormal Mitochondria. JAMES M. POWERS, MD, DAVID P. DECIERO, BS, CHRISTOPHER COX, PHD, ERIC K. RICHFIELD, MD, PHD, MASUMI ITO, MD, ANN B. MOSER, BS, AND HUGO W. MOSER, MD. *Rochester, New York and Baltimore, Maryland* 493

Abstracts—77th Annual Meeting of the American Association of Neuropathologists, Inc. 503

NUMBER 6, JUNE, 2001

Alexander Disease: New Insights From Genetics. ALBEE MESSING, VMD, PHD, JAMES E. GOLDMAN, MD, PHD, ANNE B. JOHNSON, MD, AND MICHAEL BRENNER, PHD. *Madison, Wisconsin, New York and Bronx, New York, and Birmingham, Alabama* 563

Neuropathology of NFHgp160 Transgenic Mice Expressing HIV-1 Env Protein in Neurons. JEAN MICHAUD, MD, FRCPC, RAUL FAJARDO, GUY CHARRON, PHD, ANNIE SAUVAGEAU, FOUAD BERRADA, PHD, DJAMEL RAMLA, HUGO DILHUYDY, YVES ROBITAILLE, MD, FRCPC, AND ALLÉGRIA KESSOUS-ELBAZ, PHD. *Montreal, Canada* 574

The Expression of Intermediate Filament Protein Nestin as Related to Vimentin and Desmin in Regenerating Skeletal Muscle. SAMULI VAITTINEN, MD, RIITTA LUKKA, MD, CECILIA SAHLGREN, MSC, TIMO HURME, MD, JUSSI RANTANEN, MD, URBAN LENDAHL, PHD, JOHN E. ERIKSSON, PHD, AND HANNU KALIMO, MD. *Turku, Finland and Stockholm, Sweden* 588

Distinct Expression Patterns and Levels of Enzymatic Activity of Matrix Metalloproteinases and Their Inhibitors in Primary Brain Tumors. AXEL PAGENSTECHER, MD, EVA M. WUSSLER, GHISLAIN OPDENAKKER, PHD, BENEDIKT VOLK, MD, AND IAIN L. CAMPBELL, PHD. *Freiburg, Germany, La Jolla, California, and Leuven, Belgium* 598

***Spiroplasma sp.* 16S rDNA in Creutzfeldt-Jakob Disease and Scrapie as Shown by PCR and DNA Sequence Analysis.** FRANK O. BASTIAN, MD AND JOHN W. FOSTER, PHD. *Mobile, Alabama* 613

Mouse Model of Bell's Palsy Induced by Reactivation of Herpes Simplex Virus Type 1. HIROTAKA TAKAHASHI, MD, YASUO HITSUMOTO, MD, PHD, NOBUMITSU HONDA, MD, PHD, NAOHITO HATO, MD, PHD, MUTSUHIKO MIZOBUCHI, MD, PHD, SHINGO MURAKAMI, MD, PHD, HISANOBU KISAKI, MD, HIROYUKI WAKISAKA, MD, AND KIYOFUMI GYO, MD, PHD. *Ehime, Okayama, and Nagoya, Japan* 621

Chromosome 1p and 14q FISH Analysis in Clinicopathologic Subsets of Meningioma: Diagnostic and Prognostic Implications. DAN X. CAI, MD, PHD, RUMA BANERJEE, BERND W. SCHEITHAUER, MD, CHRISTINE M. LOHSE, BETTE K. KLEINSCHMIDT-DEMASTERS, MD, AND ARIE PERRY, MD. *Cleveland, Ohio, St. Louis, Missouri, Rochester, Minnesota, and Denver, Colorado* 628

Dominance of Autoreactive T Cell-Mediated Delayed-Type Hypersensitivity or Antibody-Mediated Demyelination Results in Distinct Forms of Experimental Autoimmune Neuritis in the Lewis Rat. JUDE MATTHEW TAYLOR, BSC, PHD AND JOHN DAVID POLLARD, MBBS, PHD. *Sydney, Australia* 637

Microglial Activation Parallels System Degeneration in Progressive Supranuclear Palsy and Corticobasal Degeneration. KEISUKE ISHIZAWA, MD AND DENNIS W. DICKSON, MD. *Jacksonville, Florida* 647

Letters to the Editor

Commentary on *"Neuropathologic Substrates of Ischemic Vascular Dementia"* (2000;59:931–45). KURT JELLINGER, MD 658

Response to Kurt Jellinger. HARRY V. VINTERS, MD, WILLIAM G. ELLIS, MD, CHRIS ZAROW, PHD, BARBARA W. ZAIAS, MD, WILLIAM J. JAGUST, MD, WENDY J. MACK, PHD, AND HELENA C. CHUI, MD 659

Book Received

Brain Hypoxia and Ischemia. *M. Oehmichen, ed.* (MNH) 660

Book Review

Neurodegenerative Diseases. *Christopher M. Clark and John Q. Trojanowski, eds.* (JOHN M. LEE, MD) 661

NUMBER 7, JULY, 2001

Experimenting on the Past: The Enigma of von Economo's Encephalitis Lethargica. ANN H. REID, MA, SHERMAN MCCALL, MD, JAMES M. HENRY, MD, AND JEFFERY K. TAUBENBERGER, MD, PHD. *Washington, DC* 663

Tracing Axons in the Peripheral Nerve Using LacZ Gene Recombinant Adenovirus and Its Application to Regeneration of the Peripheral Nerve. HITOSHI MIWA, MD, MINORU SHIBATA, MD, HARUO OKADO, MD, PHD, AND Shigeki Hirano, PhD. *Niigata, Fuchu, and Saitama, Japan* 671

Bone Marrow Chimeric Rats Reveal the Unique Distribution of Resident and Recruited Macrophages in the Contused Rat Spinal Cord. PHILLIP G. POPOVICH, PHD AND WILLIAM F. HICKEY, MD. *Columbus, Ohio and Lebanon, New Hampshire* 676

Expression and Activities of Aldo-Keto Oxidoreductases in Alzheimer Disease. MATTHEW J. PICKLO, SR., PHD, SANDRA J. OLSON, MS, WILLIAM R. MARKESBERY, MD, AND THOMAS J. MONTINE, MD, PHD. *Nashville, Tennessee and Lexington, Kentucky* 686

Influenza RNA not Detected in Archival Brain Tissues from Acute Encephalitis Lethargica Cases or in Postencephalitic Parkinson Cases. SHERMAN MCCALL, MD, JAMES M. HENRY, MD, ANN H. REID, MA, AND Jeffery K. Taubenberger, MD, PhD. *Washington, DC* 696

Autometallographic Tracing of Bismuth in Human Brain Autopsies. MEREDIN STOLTENBERG, MD, PHD, JEAN-ANASTASE HOGENHUIS, MD, JEAN-JACQUES HAUW, MD, AND GORM DANSCHER, DRMEDSC. *Aarhus, Denmark and Paris, France* 705

Hamartin and Tuberin Interaction With the G2/M Cyclin-Dependent Kinase CDK1 and Its Regulatory Cyclins A and B. MICHAEL G. CATANIA, PHD, PAUL S. MISCHEL, MD, AND HARRY V. VINTERS, MD. *Los Angeles, California* 711

Mice With Mutations in the Mahogany Gene *Atrn* Have Cerebral Spongiform Changes. RODERICK T. BRONSON, DVM, LEAH RAE DONAHUE, PHD, RICHARD SAMPLES, JUNG HAN KIM, PHD, AND JUERGEN K. NAGGERT, PHD. *Bar Harbor, Maine* 724

Alzheimer β Amyloid Deposition Enhanced by ApoE ϵ4 Gene Precedes Neurofibrillary Pathology in the Frontal Association Cortex of Nondemented Senior Subjects. HARUYASU YAMAGUCHI, MD, SHIRO SUGIHARA, MD, AKIRA OGAWA, MD, NORIKO OSHIMA, AND YASUO IHARA, MD. *Maebashi, Ohta, and Tokyo, Japan* 731

In Memoriam

Nathan Malamud, MD (MICHAEL N. HART) 740

NUMBER 8, AUGUST, 2001

Cell Survival and Clinical Outcome Following Intrastriatal Transplantation in Parkinson Disease. PETER HAGELL, RN, BSC AND PATRIK BRUNDIN, MD, PHD. *Lund, Sweden* 741

Plaque-Induced Abnormalities in Neurite Geometry in Transgenic Models of Alzheimer Disease: Implications for Neural System Disruption. RICKY LE, BA, LUIS CRUZ, PHD, BRIGITA URBANC, PHD, ROGER B. KNOWLES, PHD, KAREN HSIAO-ASHE, MD, PHD, KAREN DUFF, PHD, MICHAEL C. IRIZARRY, MD, H. EUGENE STANLEY, PHD, AND BRADLEY T. HYMAN, MD, PHD. *Charlestown and Boston, Massachusetts, Madison, New Jersey, Minneapolis, Minnesota, and Orangeburg, New York* 753

Oxidative Damage Is the Earliest Event in Alzheimer Disease. AKIHIKO NUNOMURA, MD, PHD, GEORGE PERRY, PHD, GJUMRAKCH ALIEV, MD, PHD, KEISUKE HIRAI, PHD, ATSUSHI TAKEDA, MD, PHD, ELIZABETH K. BALRAJ, MD, PAUL K JONES, PHD, HOSSEIN GHANBARI, PHD, TAKAFUMI WATAYA, MD, SHUN SHIMOHAMA, MD, PHD, SHIGERU CHIBA, MD, PHD, CRAIG S. ATWOOD, PHD, ROBERT B. PETERSEN, PHD, AND MARK A. SMITH, PHD. *Cleveland, Ohio, Asahikawa, Osaka, and Kyoto, Japan* 759

Experimentally Induced Leptomeningeal Glioneuronal Heterotopia and Underlying Cortical Dysplasia of the Lateral Limbic Area in Rats Treated Transplacentally With Methylmercury. Akiyoshi Kakita, MD, Koichi WAKABAYASHI, MD, MU SU, MD, YUE-SHAN PIAO, MD, AND HITOSHI TAKAHASHI, MD. *Niigata, Japan* 768

Cholesterol Accumulates in Senile Plaques of Alzheimer Disease Patients and in Transgenic APP_{SW} Mice. TAKASHI MORI, DVM, PHD, DANIEL PARIS, PHD, TERRENCE TOWN, BA, AMYN M. ROJIANI, MD, PHD, D. LARRY SPARKS, PHD, ANTHONY DELLEDONNE, FIONA CRAWFORD, PHD, LAILA I. ABDULLAH, BS, DENNIS W. DICKSON, MD, PHD, AND MICHAEL J. MULLAN, MD, PHD. *Tampa and Jacksonville, Florida and Sun City, Arizona* 778

Long-Term Cortical Atrophy after Excitotoxic Striatal Lesion: Effects of Intrastriatal Fetal-Striatum Grafts and Implications for Huntington Disease. ANA MUÑOZ, PHD, ANA LOPEZ, MD, HÉCTOR J. CARUNCHO, PHD, MARÍA JOSÉ GUERRA, PHD, AND JOSÉ LUIS LABANDEIRA-GARCÍA, MD, PHD. *Santiago de Compostela, Spain* 786

Inhibition of Antigen-Specific T Cell Trafficking into the Central Nervous System via Blocking PECAM1/CD31 Molecule. ZHU QING, MD, PHD, MATYAS SANDOR, PHD, ZSUZSA RADVANY, PHD, DIANE SEWELL, ANDRAS FALUS, PHD, DAN POTTHOFF, WILLIAM A. MULLER, MD, PHD, AND ZSUZSA FABRY, PHD. *Madison, Wisconsin, Budapest, Hungary, and New York, New York* 798

Concurrent Hypermethylation of Multiple Genes Is Associated with Grade of Oligodendroglial Tumors. SHU-MIN DONG, MB, JESSE CHUNG-SEAN PANG, MSC, WAI-SANG POON, MBCHB, FRCSG, JIE HU, MD, KA-FAI TO, MBCHB, FRCPA, ALEXANDER RUSSELL CHANG, MD, FRCPA, AND HO-KEUNG NG, MD, FRCPATH, FRCPA. *Hong Kong and Shanghai, China* 808

Histopathology, Electrodiagnostic Testing, and Magnetic Resonance Imaging Show Significant Peripheral and Central Nervous System Myelin Abnormalities in the Cat Model of Alpha-Mannosidosis. CHARLES H. VITE, DVM, JOSEPH C. MCGOWAN, PHD, KYLE G. BRAUND, BVSC, MVSC, PHD, FRCVS, KENNETH J. DROBATZ, DVM, JERRY D. GLICKSON, PHD, JOHN H. WOLFE, VMD, PHD, AND MARK E. HASKINS, VMD, PHD. *Philadelphia, Pennsylvania, Annapolis, Maryland, and Dadeville, Alabama* 817

NUMBER 9, SEPTEMBER, 2001

Caspases, Apoptosis, and Alzheimer Disease: Causation, Correlation, and Confusion. KEVIN A. ROTH, MD, PHD. *St. Louis, Missouri* 829

Inducible Nitric Oxide Synthase (iNOS) and Nitrotyrosine Immunoreactivity in the Spinal Cords of Transgenic Mice with a G93A Mutant *SOD1* Gene. SHOICHI SASAKI, MD, HITOSHI WARITA, MD, KOJI ABE, MD, AND MAKOTO IWATA, MD. *Tokyo and Okayama, Japan* 839

Cathepsins Are Upregulated by IFN-γ/STAT1 in Human Muscle Culture: A Possible Active Factor in Dermatomyositis. EDUARD GALLARDO, PHD, IRENE DE ANDRÉS, PHD, AND ISABEL ILLA, MD. *Barcelona, Spain* 847

Periventricular Heterotopia May Result from Radial Glial Fiber Disruption. MARIA RITA SANTI, MD AND JEFFERY A. GOLDEN, MD. *Washington, DC and Philadelphia, Pennsylvania* 856

Glioblastomas with an Oligodendroglial Component: A Pathological and Molecular Study. J. HE, MD, PHD, K. MOKHTARI, MD, M. SANSON, MD, PHD, Y. MARIE, MSC, M. KUJAS, MD, S. HUGUET, MSC, P. LEURAUD, MSC, L. CAPELLE, MD, J.Y. DELATTRE, MD, J. POIRIER, MD, AND K. HOANG-XUAN, MD. *Paris, France* 863

Selective Deposition of Mutant Tau in the FTDP-17 Brain Affected by the P301L Mutation. TOMOHIRO MIYASAKA, BS, MAHO MORISHIMA-KAWASHIMA, PHD, RIVKA RAVID, PHD, WOUTER KAMPHORST, MD, KAZUO NAGASHIMA, MD, AND YASUO IHARA, MD. *Tokyo, Sapporo, and Kawaguchi, Japan and Amsterdam, The Netherlands* 872

Detection of HIV-1 Gene Sequences in Hippocampal Neurons Isolated from Postmortem AIDS Brains by Laser Capture Microdissection. JORGE TORRES-MUÑOZ, PHD, PATRICIA STOCKTON, NOE TACORONTE, MS, BRENDA ROBERTS, ROBERT R. MARONPOT, DVM, AND CAROL KAISER PETITO, MD. *Miami, Florida and Research Triangle Park, North Carolina* 885

Inhibitory Action of Nitric Oxide on Circulating Tumor Necrosis Factor-Induced NF-κB Activity and COX-2 Transcription in the Endothelium of the Brain Capillaries. VÉRONIQUE BLAIS AND SERGE RIVEST. *Quebec, Canada* 893

Neuronal and Glial Coexpression of Argininosuccinate Synthetase and Inducible Nitric Oxide Synthase in Alzheimer Disease. MICHAEL T. HENEKA, MD, HEINRICH WIESINGER, PHD, LUCIA DUMITRESCU-OZIMEK, PHD, PETER RIEDERER, MD, DOUGLAS L. FEINSTEIN, PHD, AND THOMAS KLOCKGETHER, MD. *Tübingen and Würzburg, Germany and Chicago, Illinois* 906

Loss of *NF1* Alleles Distinguish Sporadic from NF1-Associated Pilocytic Astrocytomas. LAN KLUWE, PHD, C. HAGEL, MD, M. TATAGIBA, MD, SEBASTIAN THOMAS, MD, D. STAVROU, MD, H. OSTERTAG, MD, ANDREAS VON DEIMLING, MD, AND VICTOR-FELIX MAUTNER, MD. *Hamburg, Hannover, and Berlin, Germany* 917

Book Review

Metabolic Diseases: Foundations of Clinical Management, Genetics and Pathology. *Enid Gilbert-Barness and Lewis A. Barness* (LUCY B. RORKE) 921

NUMBER 10, OCTOBER, 2001

Alzheimer Disease Therapeutics. MICHAEL C. IRIZARRY, MD AND BRADLEY T. HYMAN, MD, PHD. *Boston, Massachusetts* 923

Synaptic Pathology in Prefrontal Cortex Is Present Only with Severe Dementia in Alzheimer Disease. STEPHEN L. MINGER, PHD, WILLIAM G. HONER, MD, MARGARET M. ESIRI, FRCPATH, BRENDAN MCDONALD, MRCPATH, JANET KEENE, DPHIL, JAMES A.R. NICOLL, MRCPATH, JANET CARTER, TONY HOPE, FRCPSYCH, AND PAUL T. FRANCIS, PHD. *London, Oxford, and Glasgow, United Kingdom and Vancouver, Canada* 929

Chloroquine-Induced Neuronal Cell Death Is p53 and Bcl-2 Family-Dependent But Caspase-Independent. ALIYA U. ZAIDI, PHD, JACQUIE S. MCDONOUGH, BS, BARBARA J. KLOCKE, MS, CECELIA B. LATHAM, BS, STANLEY J. KORSMEYER, MD, RICHARD A. FLAVELL, PHD, ROBERT E. SCHMIDT, MD, PHD, AND KEVIN A. ROTH, MD, PHD. *St. Louis, Missouri, Boston, Massachusetts, and New Haven, Connecticut* 937

Clinical Validity of Aß-Protein Deposition Staging in Brain Aging and Alzheimer Disease. GABRIEL GOLD, MD, ENIKÖ KÖVARI, MD, GINA CORTE, MD, FRANÇOIS R HERRMANN, MD, MPH, ALESSANDRA CANUTO, MD, THIERRY BUSSIÈRE, PHD, PATRICK R. HOF, MD, CONSTANTIN BOURAS, MD, AND PANTELEIMON GIANNAKOPOULOS, MD. *Geneva, Switzerland and New York, New York* 946

TX14(A), a Prosaposin-Derived Peptide, Reverses Established Nerve Disorders in Streptozotocin-Diabetic Rats and Prevents Them in Galactose-Fed Rats. ANDREW P. MIZISIN, PHD, RACHEL C. STEINHARDT, JOHN S. O'BRIEN, MD, AND NIGEL A. CALCUTT, PHD. *La Jolla, California* 953

Interleukin-1β Is Required for the Early Evolution of Reactive Astrogliosis following CNS Lesion. LEONIE M. HERX, BSC AND V. WEE YONG, PHD. *Calgary, Alberta, Canada* 961

Altered Immediate Early Gene Expression in Injured Diabetic Nerve: Implications in Regeneration. GANG XU, PHD AND ANDERS A.F. SIMA, MD, PHD. *Detroit, Michigan* 972

Distinct Expression Pattern of Microtubule-Associated Protein-2 in Human Oligodendrogliomas and Glial Precursor Cells. I. BLÜMCKE, MD, A.J. BECKER, MD, S. NORMANN, V. HANS, MD, B.M. RIEDERER, PHD, S. KRAJEWSKI, PHD, O.D. WIESTLER, MD, AND G. REIFENBERGER, MD, PHD. *Bonn and Düsseldorf, Germany, Lausanne, Switzerland, and La Jolla, California* 984

Aggressive Phenotypic and Genotypic Features in Pediatric and NF2-Associated Meningiomas: A Clinicopathologic Study of 53 Cases. ARIE PERRY, MD, CATERINA GIANNINI, MD, PHD, RAVI RAGHAVAN, MD, BERND W. SCHEITHAUER, MD, RUMA BANERJEE, LINDA MARGRAF, MD, DANIEL C. BOWERS, MD, RICHARD A. LYTLE, MD, IRENE F. NEWSHAM, PHD, AND DAVID H. GUTMANN, MD, PHD. *St. Louis, Missouri, Rochester, Minnesota, Dallas, Texas, and Detroit, Michigan* 994

Potential Environmental and Host Participants in the Early White Matter Lesion of Adreno-Leukodystrophy: Morphologic Evidence for CD8 Cytotoxic T Cells, Cytolysis of Oligodendrocytes, and CD1-Mediated Lipid Antigen Presentation. MASUMI ITO, MD, BENJAMIN M. BLUMBERG, PHD, DAVID J. MOCK, MD, ANDREW D. GOODMAN, MD, ANN B. MOSER, BS, HUGO W. MOSER, MD, KIRBY D. SMITH, PHD, AND JAMES M. POWERS, MD. *Rochester, New York and Baltimore, Maryland* **1004**

Books Received

Glutamine Repeats and Neurodegenerative Diseases: Molecular Aspects. *Edited by Peter S. Harper and Max Perutz.* (MNH) **1020**

Muscular Dystrophy Methods and Protocols. *Edited by Katharine M.D. Bushby and Louise V.B. Anderson.* (MNH) **1020**

NUMBER 11, NOVEMBER, 2001

Refsum Disease, Peroxisomes and Phytanic Acid Oxidation: A Review. RONALD J. A. WANDERS, PHD, GERBERT A. JANSEN, PHD, AND OLA H. SKJELDAL, MD. *Amsterdam, The Netherlands and Oslo, Norway* **1021**

Defective Mitochondrial Oxidative Phosphorylation in Myopathies with Tubular Aggregates Originating from Sarcoplasmic Reticulum. STEFAN VIELHABER, MD, ROLF SCHRÖDER, MD, KIRSTIN WINKLER, PHD, SERGE WEIS, MD, MICHAEL SAILER, MD, HELMUT FEISTNER, MD, HANS-JOCHEN HEINZE, MD, J. MICHAEL SCHRÖDER, MD, AND WOLFRAM S. KUNZ, PHD. *Magdeburg, Bonn, and Aachen, Germany* **1032**

Lack of Endothelial Nitric Oxide Synthase Aggravates Murine Pneumococcal Meningitis. UWE KOEDEL, MD, ROBERT PAUL, MD, FRANK WINKLER, MD, STEFAN KASTENBAUER, MD, PAUL L. HUANG, MD, PHD, AND H. WALTER PFISTER, MD. *Munich, Germany and Boston, Massachusetts* **1041**

Cotton Wool Plaques in Non-Familial Late-Onset Alzheimer Disease. TIEN V. LE, BS, RICHARD CROOK, PHD, JOHN HARDY, PHD, AND DENNIS W. DICKSON, MD. *Jacksonville, Florida* **1051**

Expression of Immune-Related Molecules Is Downregulated in *Twitcher* Mice Following Bone Marrow Transplantation. YUN-PING WU, MD, PHD, EILEEN J. MCMAHON, BS, JUNKO MATSUDA, MD, KUNIHIKO SUZUKI, MD, GLENN K. MATSUSHIMA, PHD, AND KINUKO SUZUKI, MD. *Chapel Hill, North Carolina* **1062**

Spinal Cord Neurofibrillary Pathology in Alzheimer Disease and Guam Parkinsonism-Dementia Complex. MARIE L. SCHMIDT, PHD, VICTORIA ZHUKAREVA, PHD, DANIEL P. PERL, MD, SHELLEY K. SHERIDAN, BS, THERESA SCHUCK, BS, VIRGINIA M.-Y. LEE, PHD, AND JOHN Q. TROJANOWSKI, MD, PHD. *Philadelphia, Pennsylvania and New York, New York* **1075**

Effects of Oncostatin M on Human Cerebral Endothelial Cells and Expression in Inflammatory Brain Lesions. KLEMENS RUPRECHT, MD, TANJA KUHLMANN, MD, FARSHID SEIF, MSC, VERA HUMMEL, MSC, NIELS KRUSE, PHD, WOLFGANG BRÜCK, MD, AND PETER RIECKMANN, MD. *Würzburg and Berlin, Germany* **1087**

Small Cell Architecture—A Histological Equivalent of EGFR Amplification in Glioblastoma Multiforme? PETER C. BURGER, MD, DENNIS K. PEARL, PHD, KENNETH ALDAPE, MD, ALLAN J. YATES, MD, PHD, BERND W. SCHEITHAUER, MD, SANDRA M. PASSE, ROBERT B. JENKINS, MD, PHD, AND C. DAVID JAMES, PHD. *Baltimore, Maryland. Columbus, Ohio, San Francisco, California, and Rochester, Minnesota* **1099**

A Programmed Ependymal Denudation Precedes Congenital Hydrocephalus in the *hyh* Mutant Mouse. A. J. JIMÉNEZ, MD, M. TOMÉ, P. PÁEZ, C. WAGNER, MSC, S. RODRÍGUEZ, PHD, P. FERNÁNDEZ-LLEBREZ, MD, E. M. RODRÍGUEZ, MD, PHD, AND J. M. PÉREZ-FÍGARES, MD. *Málaga, Spain and Valdivia, Chile* **1105**

Books Received

Practical Review of Neuropathology. *Gregory N. Fuller and J. Clay Goodman* (MNH)

Neuropathology Review. *Richard A. Prayson, MD* (MNH) **1120**

Letters to the Editor

Influenza RNA not Detected in Archival Brain Tissues from Acute Encephalitis Lethargica Cases or in Postencephalitic Parkinson Cases (2001;60:696–704) K. A. Jellinger, MD **1121**

Response to K. A. Jellinger: JAMES M. HENRY, MD **1122**

NUMBER 12, DECEMBER, 2001

Update on the Neuropathological Diagnosis of Frontotemporal Dementias. JOHN Q. TROJANOWSKI, MD, PHD AND DENNIS DICKSON, MD. *Philadelphia, Pennsylvania and Jacksonville, Florida* **1123**

Regulation of Th1 and Th2 Lymphocyte Migration by Human Adult Brain Endothelial Cells. KATARZYNA BIERNACKI, MSC, ALEXANDRE PRAT, MD, PHD, MANON BLAIN, AND JACK P. ANTEL, MD. *Montreal, Quebec, Canada* **1127**

Ectopic White Matter Neurons, a Developmental Abnormality That May Be Caused by the *PSEN1* S169L Mutation in a Case of Familial AD with Myoclonus and Seizures. Masaki Takao, MD, Bernardino Ghetti, MD, Jill R. Murrell, PhD, Frederick W. Unverzagt, PhD, Giorgio Giaccone, MD, Fabrizio Tagliavini, MD, Orso Bugiani, MD, Pedro Piccardo, MD, Christine M. Hulette, MD, Barbara J. Crain, MD, PhD, Martin R. Farlow, MD, and Albert Heyman, MD. *Indianapolis, Indiana, Durham, North Carolina, Baltimore, Maryland, and Milano, Italy* 1137

Inhibition of Sorbitol Dehydrogenase Exacerbates Autonomic Neuropathy in Rats with Streptozotocin-Induced Diabetes. Robert E. Schmidt, MD, PhD, Denise A. Dorsey, AB, Lucie N. Beaudet, Santiago B. Plurad, PhD, Curtis A. Parvin, PhD, Kevin E. Yarasheski, PhD, Samuel R. Smith, MS, Hans-Jochen Lang, PhD, Joseph R. Williamson, MD, and Yasuo Ido, MD. *Saint Louis, Missouri and Frankfurt/Main, Germany* 1153

Oligodendroglial Tumors Frequently Demonstrate Hypermethylation of the *CDKN2A* (*MTS1*, $p16^{INK4a}$), $p14^{ARF}$, and *CDKN2B* (*MTS2*, $p15^{INK4b}$) Tumor Suppressor Genes. Marietta Wolter, PhD, Julia Reifenberger, MD, Britta Blaschke, Koichi Ichimura, MD, Esther E. Schmidt, PhD, V. Peter Collins, MD, and Guido Reifenberger, MD, PhD. *Düsseldorf, Germany and Cambridge, Great Britain* 1170

Concurrent Inactivation of RB1 and TP53 Pathways in Anaplastic Oligodendrogliomas. Takao Watanabe, MD, Hideaki Yokoo, MD, Minako Yokoo, MD, Yasuhiro Yonekawa, MD, Paul Kleihues, MD, and Hiroko Ohgaki, PhD. *Lyon, France and Zurich, Switzerland* 1181

Activation of the JNK/p38 Pathway Occurs in Diseases Characterized by Tau Protein Pathology and Is Related to Tau Phosphorylation But Not to Apoptosis. Cristiana Atzori, PhD, Bernardino Ghetti, MD, Roberto Piva, PhD, Anu N. Srinivasan, PhD, Paolo Zolo, MD, Marie Bernadette Delisle, MD, Suzanne S. Mirra, MD, and Antonio Migheli, MD, PhD. *Turin and Arezzo, Italy, Indianapolis, Indiana, La Jolla, California, Toulouse, France, and Brooklyn, New York* 1190

White Matter Extracellular Matrix Chondroitin Sulfate/Dermatan Sulfate Proteoglycans in Multiple Sclerosis. Raymond A. Sobel, MD and Azam S. Ahmed, AB. *Palo Alto, California and Maywood, Illinois* 1198

Hypothalamic Lesions in Multiple Sclerosis. Inge Huitinga, PhD, Corline J. A. De Groot, PhD, Paul Van der Valk, MD, PhD, Wouter Kamphorst, MD, PhD, Fred J. H. Tilders, PhD, and Dick F. Swaab, MD, PhD. *Amsterdam, The Netherlands* 1208

Hyperphosphorylation of RNA Polymerase II and Reduced Neuronal RNA Levels Precede Neurofibrillary Tangles in Alzheimer Disease. Jacob W. Husseman, BA, Janice L. Hallows, PhD, David B. Bregman, MD, PhD, James B. Leverenz, MD, David Nochlin, MD, Lee-Way Jin, MD, PhD, and Inez Vincent, PhD. *Seattle, Washington and Bronx, New York* 1219

Letters to the Editor

Commentary on "Axonal Dysfunction in Adoptive Transfer of Experimental Autoimmune Neuritis with P2-Specific $CD4^+$ Cells: The Role of Nerve Ischemia" (2001;60:637–46). José Berciano, MD 1233

Response to José Berciano. John Pollard, MBBS, PhD and Jude Taylor, PhD 1233

Author Index 1235

Subject Index 1238